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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/797,400	03/10/2004	Errette Bevins III	PGI6044P1171US	5594

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EXAMINER	
YAO, SAMCHUAN CUA	

ART UNIT	PAPER NUMBER
1733	

DATE MAILED: 09/25/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary for Applications Under Accelerated Examination	Application No.	Applicant(s)	
	10/797,400	BEVINS ET AL.	
	Examiner	Art Unit	
	Sam Chuan C. Yao	1733	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Since this application has been granted special status under the accelerated examination program, NO extensions of time under 37 CFR 1.136(a) will be permitted and a SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE:

ONE MONTH OR THIRTY (30) DAYS, WHICHEVER IS LONGER,
FROM THE MAILING DATE OF THIS COMMUNICATION – if this is a non-final action or a *Quayle* action.
(Examiner: For **FINAL** actions, please use PTOL-326.)

The objective of the accelerated examination program is to complete the examination of an application within twelve months from the filing date of the application. Any reply must be filed electronically via EFS-Web so that the papers will be expeditiously processed and considered. If the reply is not filed electronically via EFS-Web, the final disposition of the application may occur later than twelve months from the filing of the application.

Status

1)☒ Responsive to communication(s) filed on *17 August 2006*.
2)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

3)☒ Claim(s) *1-4 and 6-18* is/are pending in the application.
3a) Of the above claim(s) *9-14* is/are withdrawn from consideration.
4)☐ Claim(s) _____ is/are allowed.
5)☒ Claim(s) *1-4,6-8 and 15-18* is/are rejected.
6)☐ Claim(s) _____ is/are objected to.
7)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

8)☐ The specification is objected to by the Examiner.
9)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
10)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

11)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a)☐ All b)☐ Some * c)☐ None of:
1.☐ Certified copies of the priority documents have been received.
2.☐ Certified copies of the priority documents have been received in Application No. _____.
3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-4, 8, and 16-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Storey et al (US 4,784,892) in view of Brock et al (US 4,041,203), Willey et al (US 5,766,737), Boe et al (US 4,082,878), Mallen et al (US 5,288,544), Fujiwara et al (US 5,951,535), and Flooden (US 3,837,995).

With respect to claims 1-3 and 8, Storey et al, drawn to a continuous in-line process of making an absorbent laminated nonwoven web such as wipes, discloses forming a 1st melt-blown fibrous covering web, forming a melt-blown fibrous core web, forming a 2nd melt-blown fibrous covering web; heat-pressing (using a pair of embossing rolls) the three webs to consolidated the webs by pattern fusion welding the webs together; wherein different materials such as polyester, nylon, polyethylene, polypropylene, etc. can be used for the 1st and 2nd covering webs, while the core web uses a material which is different from at least one of the covering webs (col. 1 lines 5-8; col. 2 lines 12-30; col. 3 lines 22-34; figures 1-2).

Storey et al does not teach forming continuous filaments in forming the three fibrous webs layers. However, it would have been obvious in the art to replace

the melt-blown fibers with spun-bond filaments fibers in forming web layers in a process suggested by Storey et al, because: a) Brock et al teaches making a patterned bonded three-layered absorbent article (such as wipes) comprising either a pair micro-fiber covering webs and a filamentary core **or** a pair of filamentary covering webs and a microfiber core; where the polymers which are used for the covering webs and the core can be made from "different polymer types" (col. 1 lines 24-39; col. 3 lines 23-38; col. 6 lines 11-28); b) Willey et al teaches the desirability of continuously forming in-situ a pair of filamentary covering webs and a melt-blown core for making a patterned bonded 3-ply fabric for used as disposal wipes; wherein the polymeric materials for the covering webs are different. (col. 3 line 26 to col. 4 line 67; col. 6 lines 25-43; figure 2); c) staple fibers and (filaments or long fibers) are art recognized interchangeable materials for making absorbent articles such as a cleaning/wiping cloth as exemplified in the teachings of Boe et al (abstract; col. 1 lines 8-44); d) Mallen also discloses using either synthetic continuous or staple fibers in making a highly absorbent article for making wash cloths, and further teaches that, *"[w]hen the synthetic fiber is in the continuous filament form, the resulting fabric is essentially non-linting. When the synthetic fiber is in the non-continuous staple form, the fabric will lint to a limited extent but the amount of lint will be substantially less than that obtained by the corresponding cotton fabric."* (emphasis added; col. 1 lines 13-25; col. 2 lines 49-65); and, e) Fujiwara et al, in discussing a related prior art, discloses that non-woven webs which are derived

from spun-bonded long fibers have a *"higher tenacity and are relatively cheap as compared with short fiber non-woven fabric"* and further teaches that, a short fiber non-woven web has another drawback, because short fibers are *"readily broken when used as a surface material of absorptive articles"* (col. 1 lines 33-65).

As for added limitations to claims 1 and 8, there are only three convenient ways to thermally pattern weld the three web layers in the modified process of Storey et al. A first thermal bonding way is to pattern weld the layers together at a temperature which is higher than the softening/melting temperature on any of the polymers that are used in the modified process of Storey et al. A second alternative way is to use a polymeric core layer, which has a softening/melting temperature that is lower than the softening/melting temperature of either polymer of the facing webs. A third and last alternative thermal bonding method is to soften/melt both facing webs without softening the core layer. This can be accomplished by using facing webs, which have softening/melting temperatures that are lower than the softening/melting temperature of the core web layer. The advantage of applying the 2nd thermal bonding process over the 1st and 3rd alternative thermal bonding processes is that, the pair of covering fibrous webs is not degraded by thermally softening/melting portions of the covering webs. In any event, a preference on whether to apply any one of the three processes for pattern welding the web layers together is taken to be well within the purview of choice in the art. None, but only the expected result of pattern welding the web

layers would have been achieved in applying anyone of the three processes. Moreover, thermally activating a thermoplastic non-woven core only to render the non-woven core tacky is an art recognized effective way for autogenously bonding a composite web having a fibrous web layer sandwich between a pair of fiber covering nonwoven webs as exemplified in the teachings of Floden (col. 2 lines 38-45; example 2; figure 2). Additionally, as noted above, Brock et al teaches making a patterned bonded (i.e. autogenously bonded) three-layered absorbent article (such as wipes) comprising either a pair micro-fiber covering webs and a filamentary core; where the polymers which are used for the covering webs and the core can be made from "different polymer types" (col. 1 lines 24-39; col. 3 lines 23-38; col. 6 lines 11-28). For these reasons, these added limitations would have been obvious in the art in order to autogenously bond the modified web layers of Storey et al.

With respect to claim 4, an absorbent web comprising a covering web having polypropylene blend filaments is an art recognized way for making a multi-layered fibrous absorbent web. For this reason, these claims would have been obvious in the art.

With respect to claims 16 and 18, using Ziegler-Natta or metallocene type of catalyst are recognized effective and reliable way to form various types of thermoplastic polyolefin material. For this reason, these claims would have been obvious in the art.

With respect to claim 17, see column 4 lines 23-42 of the Brock et al patent.

3. Claims 6-7 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over the references set forth in numbered paragraph 2 as applied to claim 1 above, and further in view of Abed et al (US 2002/0148547 A1).

With respect to claim 6, while Storey teaches using a pair of embossing rolls where *"one of which is engraved with a bonding pattern"*, Storey et al is silent on the relative temperatures between an engraved roll and a smooth roll (i.e. the temperature of engraved roll is greater than the temperature of a smooth roll). However, such would have been obvious in the art, because Brock et al discloses the desirability of embossing an absorbent three-layered fibrous web using a pair of embossing rolls, where a temperature of an engraved roll is higher than a temperature of a smooth roll, and wherein different polymers can be used in preparing layers in the web (abstract; col. 1 lines 24-39; col. 3 lines 3-38; col. 4 lines 9-42; example IV table, in particular, see the temperature of rolls 42 and 44); and, Abed et al discloses the advantage of using a pair of embossing rolls, where the temperature of engraved roll is higher than a temperature of an anvil (i.e. smooth) roll, for constructing a three-layered fiber web (abstract; numbered paragraphs 3-5,8, 12-19).

With respect to claim 7, Abed et al teaches the desirability of using polyethylene fibers in forming a fabric, when it is used where it comes in contact with human skin. However, Abed et al noted that, polyethylene fibers present processing difficulties since the polyethylene fibers tend to stick to heated calender rolls and they have a narrow working temperature (numbered paragraph 3). To address

this problem, Abed et al suggests forming a multi-layered fiber web by embossing a plurality of fibrous web layers using a pair of embossing rolls, where a higher temperature engraved roll is used to press against a 1st polypropylene web layer, while a lower temperature anvil roll is used to press against the 2nd core/sheath fiber web layer; wherein a polypropylene is used for the core and a polyethylene for the sheath (numbered paragraphs 3-5,8, and 12-19). It would have been obvious in the art to position the plurality of fiber webs in a modified process of Storey et al such that a covering polyethylene fiber web layer is positioned so that it contact against a lower temperature anvil roll to prevent the web from sticking onto a heated roll while achieving the desired tactile characteristics (i.e. softness).

With respect to claim 15, see column 4 lines 23-42 of the Brock et al patent.

Response to Arguments

4. Applicant's arguments filed on 08-17-06 have been fully considered but they are not persuasive.

On page 8 last paragraph, Counsel argued that "The secondary references, such as Willey et al., teach away from Applicant's novel invention, by which Applicants' provide a unique nonwoven fabric construct comprised of continuous filaments webs that are in contact with each other and bonded to each other via the third continuous filament web alone, without resort to an intermediate meltblown fibrous web, as contemplated by Willey et al." (emphasis added). Examiner strongly disagrees. While Willey et al teaches using "an intermediate meltblown

fibrous web", it would have been obvious in the art to use a filamentary non-woven web in a modified process of Storey et al. As has been noted above, staple fibers and (filaments or long fibers) are art recognized interchangeable materials for making absorbent articles such as a cleaning/wiping cloth as exemplified in the teachings of Boe et al (abstract; col. 1 lines 8-44). Moreover, Mallen also discloses using either synthetic continuous or staple fibers in making a highly absorbent article for making wash cloths, and further teaches that, *"[w]hen the synthetic fiber is in the continuous filament form, the resulting fabric is essentially non-linting. When the synthetic fiber is in the non-continuous staple form, the fabric will lint to a limited extent but the amount of lint will be substantially less than that obtained by the corresponding cotton fabric."* (emphasis added; col. 1 lines 13-25; col. 2 lines 49-65). Additionally, Fujiwara et al, in discussing a related prior art, discloses that non-woven webs which are derived from spun-bonded long fibers have a *"higher tenacity and are relatively cheap as compared with short fiber non-woven fabric"* and further teaches that, a short fiber non-woven web has another drawback, because short fibers are *"readily broken when used as a surface material of absorptive articles"* (col. 1 lines 33-65). Furthermore, there are only three convenient ways to thermally pattern weld the three web layers in the modified process of Storey et al. The first thermal bonding method is to pattern weld the layers together at a temperature which is higher than the softening/melting temperature on any of the polymers that are used in the modified process of Storey et al. A second alternative way is

to use a polymeric core layer, which has a softening/melting temperature that is lower than the softening/melting temperature of either polymer of the facing webs. A third alternative way is to soften/melt both facing webs without softening the core layer. This can be accomplished by using facing webs, which have softening/melting temperatures that are lower than the softening/melting temperature of the core web layer. However, the advantage for applying the 2nd thermal bonding process over the 1st and 3rd alternative thermal bonding methods is that, the pair of covering fibrous webs is not degraded by thermal softening/melting of the covering webs. In any event, a preference on whether to apply any one of the three processes for pattern welding the web layers together is taken to be well within the purview of choice in the art. None, but only the expected result of pattern welding the web layers would have been achieved in applying anyone of the three processes. Moreover, thermally activating a thermoplastic non-woven core only to render the non-woven core tacky is an art recognized effective way to autogenously a composite web having a pair of fiber covering nonwoven webs and a fibrous core web layer as exemplified in the teachings of Floden (col. 2 lines 38-45; example 2; figure 2). Additionally, as noted above, Brock et al teaches making a patterned bonded (i.e. autogenously bonded) three-layered absorbent article (such as wipes) comprising either a pair micro-fiber covering webs and a filamentary core; where the polymers which are used for the covering webs and the core can be made from "different polymer types" (col. 1 lines 24-39; col. 3 lines 23-38; col. 6 lines 11-28). For these

reasons, it would have been obvious in the art to modify the process of Storey et al such that the staple fibers are replaced with filamentary fibers and to only heat-activate the filaments in a non-woven core.

. *Conclusion*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sam Chuan C. Yao whose telephone number is (571) 272-1224. The examiner can normally be reached on Monday-Friday with second Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Richard Crispino can be reached on (571) 272-1171. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Sam Chuan C. Yao
Primary Examiner
Art Unit 1733

Scy
09-15-06